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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/742,250	12/20/2000	Carl Werner	00-167-C	8064

20306 7590 06/18/2002

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EXAMINER

NGUYEN, LINH V

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 06/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/742,250

Applicant(s)

WERNER ET AL.

Examiner

Linh V. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) 2-10, 12-14, 16-20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Claim Objections

1. Claims, 2-10, 12-14, and 16-20 are objected to because of the following informalities:
 - Need to replace "A method" for each above claims with --The method--.
2. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claims 1, 2, 3, 4, 7, 9, 11, 12, 14, 15, 16 and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Sandhu et al. U.S. patent No. 6,006,169.
5. Regarding to claims 1, 2, 3, 4, 7, 9, Sandhu et al. disclose a calibration method for a current mode driver (Fig. 4) to provide an output that falls within a predetermined range (Abstract), the method comprising the steps of: sensing (Fig. 4 [32]) at least one of a process condition, a voltage condition and a temperature condition (Col. 3 lines 48 – 53); adjusting a full scale current of a DAC in accordance with the sensing step and setting a current control signal based on an output of the DAC (Col. 6 lines 1 – 16); wherein

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- the step of adjusting the full scale current comprises the steps of: generating an adjustment signal (Col. 4 line 1) in response to the sensing step; and applying the adjustment signal to the current mode driver, the adjustment signal causing the current mode driver to adjust the full scale current (Col. 7 lines 7 – 16).
- the step of applying the adjustment signal to the current mode driver comprises applying at least one predetermined voltage (Fig. 9 [V_{BE}]) to a corresponding at least one transistor switch (Fig.9 [92]).
- the current control signal comprises a plurality of bits (Fig.9 [84]).
- the sensing step comprises sensing a voltage/temperature sensitive DC parameter (Fig. 9 [90]) and AC parameter; applying a voltage/temperature independent current (Fig. 9 [I_{main}]) to a voltage/temperature load (Fig. 9 [32]) and detecting a voltage drop across the voltage/temperature load.

6. Regarding to claim 11, 12, 14, 15, and 16, Shandhu et al. as applied to claims 1, 2, 3, 4, 7, and 9 above, disclose every aspect of applicant's claimed invention.

7. Regarding to claims 20, the step in the claimed method are deem to be made clearly inherent by the predetermined threshold voltage as applied to claim 3 above by Sandhu et al.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the

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subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al. applied to in view of Gillig U.S. patent No. 5,604,468.

Sandhu et al. as applied to claim 1 above, disclose every aspect of applicant's claimed invention, however Sandhu et al. are silent to the sensing step comprises determining a condition associated with a delay-locked loop or a phase-locked loop.

Fig. 5 Gillig teaches a temperature-sensing system comprises determining a condition associated with a phase-locked loop or a delayed-locked loop (Col. 4 line 62 – Col. 5 line10).

Sandhu et al. and Gillig are analogous, because they are from a similar problem solving area of voltage/temperature sensing circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the locked-loop circuit of Gillig's sensing-circuit to the sensing-circuit of Sandhu et al. for the purpose of providing accurate, linear and repeatable temperature compensation with more simplified circuitry (Col. 2 lines 1 – 4).

10. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al., in view of Georgiou et al. U.S. patent No. 5,798,918.

Sandhu et al. as applied to claim 1 above, disclose every aspect of applicant's claimed invention, however Sandhu et al. are silent to the sensing step comprises the steps of applying a pulse to a delay line and a first plurality of latches, wherein the delay line comprises a second plurality of delay stages; coupling an output of a subset of the plurality of delay stages to an input of a corresponding latch from the plurality of latches; and decoding an output from the plurality of latches.

Georgiou et al. disclose a computer processing system (Fig. 1a) with a temperature sensing and controlling circuit (Fig. 1 b), the sensing circuit comprising steps of applying a pulse (Fig. 3 [135]) to a delay line (Fig. 3 [270]) and a first plurality of latches (Fig. 3 [340]), wherein the delay line comprises a second plurality of delay stages (Fig. 3 [330]); coupling an output of a subset of the plurality of delay stages to an input of a corresponding latch from the plurality of latches; and decoding an output from the plurality of latches (Fig. 1b [130]).

Sandhu et al. and Georgiou are analogous, because they are from a similar problem solving area of voltage/temperature sensing circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the delayed and latched of Gillig's sensing-circuit to the sensing-circuit of Sandhu et al. for the purpose of improved power dissipation of circuit which maintains synchronization and reliability (Col. 2 lines 6-7).

11. Claims 10, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al. applied to in view of Nguyen et al. U.S. patent No. 6,215,635.

Sandhu et al. as applied to claim 1 and 15 above, disclose every aspect of applicant's claimed invention, however Sandhu et al. are silent to the sensing step comprises sensing a voltage/temperature sensitive AC parameter; and a switched capacitor circuit to provide the second output.

Fig. 3 Nguyen et al. disclose a digital temperature sensor made up of AC parameter (Cin); and a switched (28, 30, 32) capacitor circuit to provide the second output.

Sandhu et al. and Nguyen et al. are analogous, because they are from a similar problem solving area of voltage/temperature sensing circuit. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply AC parameter with

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switched capacitor of Gillig's sensing-circuit to the sensing-circuit of Sandhu et al. for the purpose of providing high accuracy, and cost improvement (Col. 1 line 49-50).

12. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al. as applied to claims 1, 4 and 11 above.

Sandhu et al. further disclose the D/A has at least two inputs (Fig.4 [71, 72]). Therefore as discussed Sandhu et al. disclose every aspect of applicant's claimed invention except for the adjustment signal for the D/A is a two bits signal. At the time the invention was made, it would have been to a person of ordinary skill in the art to applied two bits adjustment signal to four bits adjustment signal of Sandhu et al.; Applicant has not disclosed that the two bit adjustment signal provides and advantage, is used for a particular purpose of solve state problem. One of ordinary skill in the art, furthermore, would have expected applicant's invention to perform equal well with four bits adjustment signal.

Therefore, it would have been obvious to one of ordinary skill in this art to modify four bits adjustment signal of Sandhu et al. to two bits adjustment signal to obtain the invention as specified in claim 13.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al., in view of Fattaruso et al. U.S. patent No. 6,204,785.

As applied to claim 15 above, Sandhu et al. disclose every aspect of applicant's claimed invention except for wherein the step of deriving the second output comprises applying the signal to a resistive divider.

Fig.2 Fattaruso et al. disclose DAC including having a step of deriving a second output (Vout) by applying the signal (I-1) to a resistive divider (R0-R6).

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Sandhu et al. and Fattaruso et al. are analogous, because they are from a similar problem solving area calibration for digital to analog converter. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply to a resistive divider of Fattaruso et al.'s DAC to Sandhu et al.'s DAC for the purpose of providing better accuracy of data conversion (Col. 3 57 –60).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (703) 305-1934. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Tokar can be reached at (703) 305-3493. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

LVN

June 5, 2002



Michael Tokar
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